

INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP2004/014698

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C25D5/34 C25D7/12 C25D5/48

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C25D C23C B08B H01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 2003, no. 12, 5 December 2003 (2003-12-05) -& JP 2003 231993 A (TOKYO ELECTRON LTD), 19 August 2003 (2003-08-19)	1-5, 20-24, 37-41, 43
Y	abstract	10, 29, 42
	figures	
Y	US 2002/092542 A1 (PARK IM-SOO ET AL) 18 July 2002 (2002-07-18) paragraphs '0005!', '0023!	10, 29
A		7, 26
Y	EP 1 167 583 A (EBARA CORP) 2 January 2002 (2002-01-02) paragraph '0024!	42
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

Z document member of the same patent family

Date of the actual completion of the international search

7 April 2005

Date of mailing of the international search report

20. 04 2005

Name and mailing address of the ISA

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 2002, no. 11, 6 November 2002 (2002-11-06) -& JP 2002 212779 A (HITACHI LTD), 31 July 2002 (2002-07-31) abstract figures	1-5
X	US 4 898 650 A (WU JEFF C ET AL) 6 February 1990 (1990-02-06) column 2, lines 46-68 claims	1,3
X	EP 1 022 770 A (SONY CORP) 26 July 2000 (2000-07-26) claims 1,7,8,17,23,24 paragraphs '0007!', '0014!', '0024!	1,4,7, 18,20, 23,26, 39,41
X	US 4 505 786 A (PATEL GORDHANBHAI N ET AL) 19 March 1985 (1985-03-19) column 3, lines 24-36 example XXX; tables III,IV	4-6
X	US 2003/003320 A1 (OKUDA FUMIO ET AL) 2 January 2003 (2003-01-02) paragraphs '0033!', '0043!' - '0047! claims 1-3,6	13,14, 32,33
X	PATENT ABSTRACTS OF JAPAN vol. 2002, no. 02, 2 April 2002 (2002-04-02) & JP 2001 274205 A (HITACHI CABLE LTD), 5 October 2001 (2001-10-05) abstract -& DATABASE WPI Section Ch, Week 200235 Derwent Publications Ltd., London, GB; Class L03, AN 2002-308534 XP002312615 & JP 2001 274205 A (HITACHI CABLE LTD) 5 October 2001 (2001-10-05) abstract	15, 17-19, 34,36-38
X	US 5 215 593 A (INAGAWA HIDEHO ET AL) 1 June 1993 (1993-06-01) column 4, paragraph 1-21 column 7, lines 4-40 example 1 figure 6	15,17,19

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FR 1 410 518 A (M & T CHEMICALS INC) 10 September 1965 (1965-09-10) examples	15,17,19
X	DE 44 33 037 A (LPW ANLAGEN GMBH) 6 April 1995 (1995-04-06) column 1, lines 34-44	15,19
X	US 2003/092261 A1 (KONDO FUMIO ET AL) 15 May 2003 (2003-05-15) paragraph '0396!; figure 70 paragraphs '0118!, '0392! - '0395! paragraph '0162!	23-27, 32,33, 37-43
A	US 2003/140949 A1 (KURODA TAKUYA ET AL) 31 July 2003 (2003-07-31) paragraph '0100!	7,26

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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-12,15-31,34-43

Plating method and apparatus for plating the surface of a substrate after a pretreatment process.

1.1. claims: 1-3,18,20-22,37-43

Plating method and apparatus for plating the surface of a substrate after a pretreatment with ultraviolet ray.

1.2. claims: 4-6,18,23-25,37-43

Plating method and apparatus for plating the surface of a substrate after a pretreatment with ozone gas.

1.3. claims: 7-9,18,26-28,37-43

Plating method and apparatus for plating the surface of a substrate after a pretreatment with ozone water.

1.4. claims: 10-12,18,29-31,37-43

Plating method and apparatus for plating the surface of a substrate after a pretreatment with electrolytic ionized water.

1.5. claims: 15-19,34-43

Plating method and apparatus for plating the surface of a substrate after a pretreatment with steam.

2. claims: 13,14,18,32,33,37-43

Plating method and apparatus for plating the surface of a substrate followed by a cleaning treatment consisting of cleaning with pure water and with an alkalescent aqueous solution.

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Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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